

Appendix Table 2. Preliminary pre-sample and applied liquid swine manure sample total nutrient analysis summary from each demonstration site, 2001

**Swine Manure Nutrient Utilization Project - 2001 CORN Field Sites**

Understanding Nutrient Rates Applied in Replicated Manure Strip Treatments

Field sites listed alphabetically by county name.

Field sites with liquid swine manure applied before 2001 corn crop (first-year manure treatment effect evaluation).							Estimated Total Manure Nutrients Applied (Applied sample analysis X calculated application rate)		
County	Field site (Nearby town)	Desired Application Rates	Nutrient Analysis of		Calculation of Manure Treatment Strip Application Rates (GPA = gallons per acre)	Nutrient Analysis of Field-Applied Manure Samples (lb/1000 gal Total Nutrients)	lb Total Nutrients/Acre		
			Pre-Application Manure Sample (lb/1000 gallon total nutrients)				N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
Cerro Gordo	Clear Lake	Check = No manure, no fertilizer	50 lb Total N/1000 gallon		No manure nor commercial fertilizer applied to check strips	54 lb Total N/1000 gallon	0	0	0
	"CORN after SB" field site	Low rate = 60 lb Total P <sub>2</sub> O <sub>5</sub> /acre	35 lb Total P <sub>2</sub> O <sub>5</sub> /1000 gallon		(60 lb total P <sub>2</sub> O <sub>5</sub> /acre) / (35 lb total P <sub>2</sub> O <sub>5</sub> /1000 gal) = 1,700 GPA	34 lb Total P <sub>2</sub> O <sub>5</sub> /1000 gallon	92	58	66
	Manure injected 04/29/2001	High rate = 100 lb Total P <sub>2</sub> O <sub>5</sub> /acre	38 lb Total K <sub>2</sub> O/1000 gallon		(100 lb total P <sub>2</sub> O <sub>5</sub> /ac) / (35 lb total P <sub>2</sub> O <sub>5</sub> /1000 gal) = 2,850 GPA	39 lb Total K <sub>2</sub> O/1000 gallon	154	97	111
Cerro Gordo	Clear Lake	Check = No manure, no fertilizer	50 lb Total N/1000 gallon		No manure nor commercial fertilizer applied to check strips	55 lb Total N/1000 gallon	0	0	0
	"CONTINUOUS CORN" field site	Low rate = 60 lb Total P <sub>2</sub> O <sub>5</sub> /acre	35 lb Total P <sub>2</sub> O <sub>5</sub> /1000 gallon		(60 lb total P <sub>2</sub> O <sub>5</sub> /ac) / (35 lb total P <sub>2</sub> O <sub>5</sub> /1000 gal) = 1,700 GPA	35 lb Total P <sub>2</sub> O <sub>5</sub> /1000 gallon	94	60	66
	Manure injected 04/29/2001	High rate = 192 lb Total N/acre	38 lb Total K <sub>2</sub> O/1000 gallon		(192 lb total N/acre) / (50 lb total N/1000 gal) = 3,840 GPA	39 lb Total K <sub>2</sub> O/1000 gallon	211	134	150
Clay	Rossie	Check = No manure, no fertilizer	Based on previous samples,		No manure nor commercial fertilizer applied to check strips	59 lb Total N/1000 gallon	0	0	0
	"CORN after SB" field site	Low rate = 75 lb Total N/acre	assumed nutrient analysis of		(75 lb total N/acre) / (60 lb total N/1000 gal) = 1,200 GPA	29 lb Total P <sub>2</sub> O <sub>5</sub> /1000 gallon	71	35	38
	Manure applied & inc. 05/15/2001	High rate = 150 lb Total N/acre	60 lb Total N/1000 gallon		(150 lb total N/acre) / (60 lb total N/1000 gal) = 2,400 GPA	32 lb Total K <sub>2</sub> O/1000 gallon	142	70	77
Floyd	Nashua	Check = No manure, no fertilizer	Based on previous samples,		No manure nor commercial fertilizer applied to check strips	47 lb Total N/1000 gallon	0	0	0
	"CORN after ALFALFA" field site	Low rate = 60 lb Total P <sub>2</sub> O <sub>5</sub> /acre	assumed nutrient analysis of		(60 lb total P <sub>2</sub> O <sub>5</sub> /acre) / (28 lb total P <sub>2</sub> O <sub>5</sub> /1000 gal) = 2,200 GPA	25 lb Total P <sub>2</sub> O <sub>5</sub> /1000 gallon	103	55	81
	Manure injected 04/27/2001	High rate = 120 lb Total P <sub>2</sub> O <sub>5</sub> /acre	28 lb Total P <sub>2</sub> O <sub>5</sub> /1000 gallon		(120 lb total P <sub>2</sub> O <sub>5</sub> /ac) / (28 lb total P <sub>2</sub> O <sub>5</sub> /1000 gal) = 4,400 GPA	37 lb Total K <sub>2</sub> O/1000 gallon	207	110	163
Hardin	Iowa Falls	Check = No manure, no fertilizer	48.2 lb Total N/1000 gallon		No manure nor commercial fertilizer applied to check strips	48 lb Total N/1000 gallon	0	0	0
	"CONTINUOUS CORN" field site	Low rate = 60 lb Total P <sub>2</sub> O <sub>5</sub> /acre	41.6 lb Total P <sub>2</sub> O <sub>5</sub> /1000 gallon		(60 lb total P <sub>2</sub> O <sub>5</sub> /ac) / (41.6 lb total P <sub>2</sub> O <sub>5</sub> /1000 gal) = 1,442 GPA	38 lb Total P <sub>2</sub> O <sub>5</sub> /1000 gallon	69	55	45
	Manure injected 04/26/2001	High rate = 190 lb Total N/acre	35 lb Total K <sub>2</sub> O/1000 gallon		(190 lb total N/acre) / (48.2 lb total N/1000 gal) = 3,943 GPA	31 lb Total K <sub>2</sub> O/1000 gallon	189	150	122

Appendix Table 2 continued. Preliminary pre-sample and applied liquid swine manure sample total nutrient analysis summary from each demonstration site, 2001.

**Swine Manure Nutrient Utilization Project - 2001 CORN Field Sites**

Understanding Nutrient Rates Applied in Replicated Manure Strip Treatments

Field sites listed alphabetically by county name.

Field sites with liquid swine manure applied before 2001 corn crop (first-year manure treatment effect evaluation).							Estimated Total Manure Nutrients Applied (Applied sample analysis X calculated application rate)		
County	Field site (Nearby town)	Desired Application Rates	Nutrient Analysis of Pre-Application Manure Sample (lb/1000 gallon total nutrients)	Calculation of Manure Treatment Strip Application Rates (GPA = gallons per acre)	Nutrient Analysis of Field-Applied Manure Samples (lb/1000 gal Total Nutrients)	lb Total Nutrients/Acre			
						N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	
Hardin	Iowa Falls	Check = No manure, no fertilizer	48.2 lb Total N/1000 gallon	No manure nor commercial fertilizer applied to check strips	48 lb Total N/1000 gallon	0	0	0	
	"CORN after SB" field site	Low rate = 100 lb Total P <sub>2</sub> O <sub>5</sub> /acre	41.6 lb Total P <sub>2</sub> O <sub>5</sub> /1000 gallon	(100 lb total P <sub>2</sub> O <sub>5</sub> /ac) / (41.6 lb total P <sub>2</sub> O <sub>5</sub> /1000 gal) = 2,404 GPA	38 lb Total P <sub>2</sub> O <sub>5</sub> /1000 gallon	115	91	75	
	Manure injected 04/26/2001	High rate = 193 lb Total N/acre	35 lb Total K <sub>2</sub> O/1000 gallon	(193 lb total N/acre) / (48.2 lb total N/1000 gal) = 4,004 GPA	31 lb Total K <sub>2</sub> O/1000 gallon	192	152	124	
Story	Story City	Check = No manure, no fertilizer	Based on previous samples,	No manure nor commercial fertilizer applied to check strips	41 lb Total N/1000 gallon	0	0	0	
	"CORN after SB" field site	Low rate = 75 lb Total N/acre	assumed nutrient analysis of	(75 lb total N/acre) / (36 lb total N/1000 gal) = 2,080 GPA	35 lb Total P <sub>2</sub> O <sub>5</sub> /1000 gallon	85	73	48	
	Manure injected 11/10/2000	High rate = 150 lb Total N/acre	36 lb Total N/1000 gallon	(150 lb total N/acre) / (36 lb total N/1000 gal) = 4,160 GPA	23 lb Total K <sub>2</sub> O/1000 gallon	171	146	96	
						lb/1000 gal Total Nutrients Applied manure 1:1 dilution <sup>a</sup>			
Washington	West Chester	Check = No manure, no fertilizer	Based on previous samples,	No manure nor commercial fertilizer applied to check strips	61 lb total N	34 lb total N	0	0	0
	"CORN after SB" field site	Low rate = 75 lb Total N/acre	assumed nutrient analysis of	(75 lb total N/acre) / (24.5 lb total N/1000 gal) <sup>a</sup> = 3,100 GPA	45 lb Total P <sub>2</sub> O <sub>5</sub>	24 lb Total P <sub>2</sub> O <sub>5</sub>	105	74	62
	Manure injected 11/10/2000	High rate = 150 lb Total N/acre	49 lb Total N/1000 gallon	(150 lb total N/acre) / (49 lb total N/1000 gal) = 3,100 GPA	36 lb Total K <sub>2</sub> O	20 lb Total K <sub>2</sub> O	189	140	112
Wright	Dows	Check = No manure, no fertilizer	41 lb Total N/1000 gallon	No manure nor commercial fertilizer applied to check strips	49 lb Total N/1000 gallon	0	0	0	
	"CORN after SB" field site	Low rate = 75 lb Total N/acre	25 lb Total P <sub>2</sub> O <sub>5</sub> /1000 gallon	(75 lb total N/acre) / (41 lb total N/1000 gal) = 1,850 GPA	35 lb Total P <sub>2</sub> O <sub>5</sub> /1000 gallon	91	65	61	
	Manure injected 04/29/2001	High rate = 150 lb Total N/acre	34 lb Total K <sub>2</sub> O/1000 gallon	(150 lb total N/acre) / (41 lb total N/1000 gal) = 3,700 GPA	33 lb Total K <sub>2</sub> O/1000 gallon	181	130	122	

<sup>a</sup> Low rate manure application achieved by diluting liquid manure with water in a 1:1 ratio.

<sup>a</sup> Low rate manure application achieved by diluting liquid manure with water in a 1:1 ratio.

Appendix Table 2 continued. Preliminary pre-sample and applied liquid swine manure sample total nutrient analysis summary from each demonstration site, 2001.

**Swine Manure Nutrient Utilization Project - 2001 CORN Field Sites**

Understanding Nutrient Rates Applied in Replicated Manure Strip Treatments

Field sites listed alphabetically by county name.

Field sites with liquid swine manure applied before 2000 soybean crop (residual year manure treatment effect evaluation).							Estimated Total Manure Nutrients Applied (Applied sample analysis X calculated application rate)		
County	Field site (Nearby town)	Desired Application Rates	Nutrient Analysis of Pre-Application Manure Sample (lb/1000 gallon total nutrients)	Calculation of Manure Treatment Strip Application Rates (GPA = gallons per acre)	Nutrient Analysis of Field-Applied Manure Samples (lb/1000 gal Total Nutrients)	lb Total Nutrients/Acre			
Clay	Spencer	Check = No manure, no fertilizer	Based on previous samples,	No manure nor commercial fertilizer applied to check strips	67 lb Total N/1000 gallon	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	
"CORN after SB" field site		Low rate = 100 lb Total N/acre	assumed nutrient analysis of	(100 lb total N/acre) / (58 lb total N/1000 gal) = 1,700 GPA	43 lb Total P <sub>2</sub> O <sub>5</sub> /1000 gallon	0	0	0	
Manure applied 4/26, inc. 4/27/00		High rate = 200 lb Total N/acre	58 lb Total N/1000 gallon	(200 lb total N/acre) / (58 lb total N/1000 gal) = 3,400 GPA	32 lb Total K <sub>2</sub> O/1000 gallon	114	73	54	
						228	146	109	
Webster	Fort Dodge	Check = No manure, no fertilizer	Based on previous samples,	No manure nor commercial fertilizer applied to check strips	71 lb Total N/1000 gallon	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	
"CORN after SB" field site		Low rate = 100 lb Total N/acre	assumed nutrient analysis of	(100 lb total N/acre) / (64 lb total N/1000 gal) = 1,600 GPA	54 lb Total P <sub>2</sub> O <sub>5</sub> /1000 gallon	0	0	0	
Manure injected 04/24/2000		High rate = 200 lb Total N/acre	64 lb Total N/1000 gallon	(200 lb total N/acre) / (64 lb total N/1000 gal) = 3,200 GPA	39 lb Total K <sub>2</sub> O/1000 gallon	91	58	59	
						182	115	118	

Appendix Table 2 continued. Preliminary pre-sample and applied liquid swine manure sample total nutrient analysis summary from each demonstration site, 2001.

**Swine Manure Nutrient Utilization Project - 2001 SOYBEAN Field Sites**

Understanding Nutrient Rates Applied in Replicated Manure Strip Treatments

Field sites listed alphabetically by county name.

Field sites with liquid swine manure applied before 2001 soybean crop (first-year manure treatment effect evaluation).							Estimated Total Manure Nutrients Applied (Applied sample analysis X calculated application rate)		
County	Field site (Nearby town)	Desired Application Rates	Nutrient Analysis of Pre-Application Manure Sample (lb/1000 gallon total nutrients)	Calculation of Manure Treatment Strip Application Rates (GPA = gallons per acre)	Nutrient Analysis of Field-Applied Manure Samples (lb/1000 gal Total Nutrients)		lb Total Nutrients/Acre		
Clay	Rossie	Check = No manure, no fertilizer	Based on previous samples,	No manure nor commercial fertilizer applied to check strips	59 lb Total N/1000 gallon		N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
"SB after CORN" field site		Low rate = 100 lb Total N/acre	assumed nutrient analysis of	(100 lb total N/acre) / (60 lb total N/1000 gal) = 1,700 GPA	31 lb Total P <sub>2</sub> O <sub>5</sub> /1000 gallon		100	53	54
Manure applied & inc. 05/15/2001		High rate = 200 lb Total N/acre	60 lb Total N/1000 gallon	(200 lb total N/acre) / (60 lb total N/1000 gal) = 3,400 GPA	32 lb Total K <sub>2</sub> O/1000 gallon		201	105	109

lb/1000 gal Total Nutrients							Applied manure 1:1 dilution <sup>b</sup>		
Washington	West Chester	Check = No manure, no fertilizer	Based on previous samples,	No manure nor commercial fertilizer applied to check strips	53 lb total N	30 lb total N	0	0	0
"SB after CORN" field site		Low rate = 100 lb Total N/acre	assumed nutrient analysis of	(100 lb total N/acre) / (26.5 lb total N/1000 gal) <sup>b</sup> = 3,800 GPA	33 lb Total P <sub>2</sub> O <sub>5</sub>	18 lb Total P <sub>2</sub> O <sub>5</sub>	114	68	61
Manure injected 04/19/2001		High rate = 200 lb Total N/acre	53 lb Total N/1000 gallon	(200 lb total N/acre) / (53 lb total N/1000 gal) = 3,800 GPA	30 lb Total K <sub>2</sub> O	16 lb Total K <sub>2</sub> O	201	125	114

<sup>b</sup> Low rate manure application achieved by diluting liquid manure with water in a 1:1 ratio.

**Field sites with liquid swine manure applied before 2000 corn crop (residual year manure treatment effect evaluation).**

Manure Nutrients Applied (Applied sample analysis X calculated application rate)							lb Total Nutrients/Acre		
County	Field site (Nearby town)	Desired Application Rates	Nutrient Analysis of Pre-Application Manure Sample (lb/1000 gallon total nutrients)	Calculation of Manure Treatment Strip Application Rates (GPA = gallons per acre)	Nutrient Analysis of Field-Applied Manure Samples (lb/1000 gal Total Nutrients)		N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
Clay	Spencer	Check = No manure, no fertilizer	Based on previous samples,	No manure nor commercial fertilizer applied to check strips	64 lb Total N/1000 gallon		0	0	0
"SB after CORN" field site		Low rate = 75 lb Total N/acre	assumed nutrient analysis of	(75 lb total N/acre) / (58 lb total N/1000 gal) = 1,300 GPA	38 lb Total P <sub>2</sub> O <sub>5</sub> /1000 gallon		77	46	38
Manure applied 4/26, inc. 4/27/00		High rate = 150 lb Total N/acre	58 lb Total N/1000 gallon	(150 lb total N/acre) / (58 lb total N/1000 gal) = 2,600 GPA	32 lb Total K <sub>2</sub> O/1000 gallon		154	91	77

Webster	Fort Dodge	Check = No manure, no fertilizer	Based on previous samples,	No manure nor commercial fertilizer applied to check strips	58 lb Total N/1000 gallon		0	0	0
"SB after CORN" field site		Low rate = 75 lb Total N/acre	assumed nutrient analysis of	(75 lb total N/acre) / (64 lb total N/1000 gal) = 1,200 GPA	40 lb Total P <sub>2</sub> O <sub>5</sub> /1000 gallon		70	48	43
Manure injected 04/24/2000		High rate = 150 lb Total N/acre	64 lb Total N/1000 gallon	(150 lb total N/acre) / (64 lb total N/1000 gal) = 2,400 GPA	36 lb Total K <sub>2</sub> O/1000 gallon		139	96	86